

Appl. No. 10/708,406
Response Dated April 13, 2007
Reply to Office Action Dated February 13, 2007

REMARKS/ARGUMENTS

The present application includes claims 1-36 and 38. In the current office action, claims 1-36 and 38 are rejected under 35 U.S.C. § 103(a). In this response, the Applicant renews the argument that the cited references do not teach or suggest all of the limitations that are recited in the claims. In addition, the Applicant renews the argument that the cited references are not properly combinable and submits the Declaration of James Belaskie, stating that a person having ordinary skill in the art would not combine the cited references because they are from non-analogous art.

Rejections Over Millheim and Streetman

Claims 1-10, 15-29, 32-36, and 38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent No. 4,794,534 issued to Millheim ("Millheim") in view of U.S. Patent No. 6,456,902 issued to Streetman ("Streetman"). The Applicant respectfully traverses this rejection because (1) the cited references do not teach or suggest all of the limitations recited in the claims, and (2) there exists no motivation to combine the cited references.

Combination does not show all elements

The claims in this application relate to drilling a wellbore. Independent claim 1 recites a method for drilling a wellbore; independent claim 19 recites a system for drilling a wellbore; independent claim 33 recites a method for drilling at least one wellbore; and independent claim 36 recites a method for drilling at least one wellbore. Claims 1, 19, and 33 include limitations

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that relate to automatically adjusting the wellsite setup from an offsite location, and claim 36 includes the limitation of automatically transmitting the drilling command from the surface control unit to the downhole drilling tool.

Millheim discloses human intervention at the wellsite. Millheim therefore does not disclose automatically adjusting a wellsite setup from an offsite center. Streetman does not make up for this deficiency.

Streetman discloses a system for a on-demand control of fluids in a production well, that is, a well from which hydrocarbon fluids are being produced and not drilled (see col. 1, ll. 13-21). Thus, Streetman cannot teach or suggest automatically adjusting a wellsite setup in the process of drilling a well. Claim 36 specifically includes the limitation of automatically transmitting the drilling command from the surface control unit to the downhole drilling tool. Streetman does not even disclose a downhole drilling tool, let alone automatically transmitting the drilling command from the surface control unit to the downhole drilling tool. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of the rejection of claims 1-10, 15-29, 32-35, and 38 under 35 U.S.C. § 103(a) is respectfully requested.

No Motivation to Combine

Section 103 states that a patent may not be obtained if the invention would have been obvious "at the time the invention was made." It is this phrase that guards against entry into the "tempting but forbidden zone of hindsight." *In re Dembiczak*, 175 F.3d 994, 998-99 (Fed. Cir. 1999) (quoting *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873 (Fed. Cir. 1985)). "[T]he best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine

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prior art references.” *Id.* at 999. “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight.” *Id.* It is for this reason that the invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).

“[T]he examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.” *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). Where the examiner does not explain the “specific understanding or principle” that would motivate a person having skill to make the combination, “this court infers that the examiner selected these references with the assistance of hindsight.” *Id.* at 1357.

The Applicant respectfully submits that the Examiner has engaged in prohibited hindsight in formulating the obviousness rejection. In response to the Applicant’s previous arguments, the Examiner stated that “Streetman suggests analogous art by stating, ‘When a successful well is drilled,’ thereby linking drilling to completion.” (February 13, 2007 Office Action at 4). The Applicant respectfully submits that this statement in Streetman merely links drilling and production in time — indicating that production must occur after a well is drilled. This statement does not provide the scientific understanding or principle that would link control of a drilling operation to the control of a production well. Therefore, the Applicant respectfully

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submits that the Examiner has not shown the required motivation to combine the references, and the claims are allowable over the combination of Millheim and Streetman.

Furthermore, there is no motivation to combine Millheim and Streetman because they come from non-analogous arts. "The scope of the prior art has been defined as that 'reasonably pertinent to the particular problem with which the inventor was involved.'" *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535 (Fed. Cir. 1983) (quoting *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979)). "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned." MPEP § 2141.01(a)(I.) (quoting *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1986)).

The Applicant respectfully submits that control of a production well is not in the same field of endeavor as controlling a drilling operation, nor is control of a production well concerned with the same problems that control of a drilling operation is concerned with. The control of a drilling operation involves the continuous control of multiple facets of the operation so that a wellbore is drilled as desired. The control of a drilling operation must occur in real-time, as the drilling progresses. With a production well, the control involves the positioning of valves to regulate fluid flow. The control is not done in real time, and in fact, a control action may be taken with a few days delay. Thus, the art of controlling a production well is non-analogous to the art of controlling a drilling operation.

In support of this contention, the Applicant submits the Declaration of James Belaskie. Mr. Belaskie has personal knowledge of the skill in the art and states that a person having ordinary skill in the art, when confronting the same problem as the inventors, would not look to

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Streetman because Streetman is from an unrelated art. In fact, Mr. Belaskie states that the measurements needed for production control are in the order of one to few measurements per day, and the control signals are transmitted in the same time frame, at most a few control signals per day. The issue of data transmission latency can be ignored in production control. To control a drilling operation, measurements are needed remotely on the order of every second to every three seconds. Latency in the data and control communications is a dominant factor in the design of a remote control drilling system. Someone designing a drilling control system would look to systems where data and control signal transmission latency is a significant portion of the needed frequency for measurements and control signals. Latency is such a small portion of the needed frequency for measurements for production control that it can be ignored.

For these reasons, the art of controlling a production well is non-analogous to the art of controlling a drilling operation. Therefore, Millheim and Streetman may not be combined because they are from non-analogous arts. According, withdrawal of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Rejections Based on Millheim, Streetman, and Alverado

Claims 11-14, 30, and 31 were rejected under 35 U.S.C. § 103 as being unpatentable over Millheim and Streetman in view of U.S. Patent No. 5,864,772 issued to ("Alverado"). Independent claims 1 and 19, from which claims 11-14, 30 and 31 depend, have been shown to be patentable over Millheim and Streetman because the combination does not teach or suggest automatically adjusting a wellsite setup from an offsite control center and because there exists no motivation to combine the references. Alverado does not make up for this deficiency.

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Alverado teaches techniques for transmitting acquired data in near real time at a remote location. Alvarado does not teach or suggest automatically adjusting a wellsite setup or making adjustments from an offsite center. In fact, Alvarado fails to even contemplate any type of communication or action from the offsite center to the wellsite. Moreover, Alvarado relates to a wireline tool, not a drilling tool, and does not teach or suggest anything related drilling a wellbore.

Thus, claims 1 and 19 are patentable over Millheim, Streetman, and Alverado. Dependent claims 11-14, 30, and 31 are allowable for at least the same reasons. Accordingly, withdrawal of the rejection of claims 11-14, 30, and 31 under § 103(a) is respectfully requested.

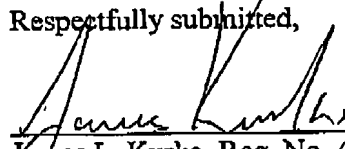
Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned at the telephone number listed below. Please apply any charges not covered or any credits, to Deposit Account 19-0610 (Reference Number 19.0372).

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Date: 4/13/07

Respectfully submitted,


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CERTIFICATE OF MAILING 37 C.F.R. 1.8	
I hereby certify that this correspondence is being transmitted by facsimile to the Patent and Trademark Office in accordance with § 1.6(d) to: 571-273-8300, on the date below:	
<u>4/13/07</u> Date	<u>James Belaskie</u> Signature

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.:	10/708,406	Confirmation No.:	2405
Applicant:	Garcia, <i>et al.</i>		
Filed:	03/01/2004		
TC/A.U.	3672		
Examiner:	Matthew J. Smith		
Docket No.:	19.0372		
Customer No.:	23718		
Title:	WELLBORE DRILLING SYSTEM AND METHOD		

Declaration of James Belaskie Under 37 C.F.R. § 1.132

I, James Belaskie, declare that all of the statements below are of my own knowledge, are true, and that all statements made on information and belief are believed to be true. I further declare that these statements are made with the knowledge that willful false statements are punishable by fine, imprisonment, or both under 18 U.S.C. § 1001, and that willful false statements may jeopardize the validity of the above-named patent application or any patent issued thereon.

1. I am over the age of eighteen, suffer no legal disabilities, have personal knowledge of the facts set forth in this declaration, and am competent to testify.
2. I have a Bachelor of Applied Science, Mechanical Engineering. University of Toronto, 1983
3. I have twenty-four years of experience, all in the drilling domain, with assignments ranging from field engineer to product development to drilling research. I am currently

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Declaration of [declarant]

the world-wide drilling engineering special interest group leader for Schlumberger, and I have had this position for the last 3 years.

4. I am an employee of Schlumberger Technology Corporation, the assignee of the present application.
5. The measurements needed for production control are in the order of one to few measurements per day, and the control signals are transmitted in the same time frame, at most a few control signals per day. The issue of data transmission latency can be ignored in production control. To control a drilling operation, measurements are needed remotely on the order of every second to every three seconds. Latency in the data and control communications is a dominant factor in the design of a remote control drilling system. Someone designing a drilling control system would look to systems where data and control signal transmission latency is a significant portion of the needed frequency for measurements and control signals. Latency is such a small portion of the needed frequency for measurements for production control that it can be ignored.
6. In view of differences between drilling and production, it is my belief that a person having ordinary skill in the art of well drilling control, concerned with the problem of automatically adjusting the wellsite setup from an offsite location, would not look to any reference that concerned the control of a production well, because the control of a production well is not an analogous art to the control of a drilling operation. Specifically, U.S. Patent No. 6,456,902 issued to Streetman ("Streetman") is concerned with the control of a production well, and a person having ordinary skill in the drilling control art would not look to Streetman to solve any drilling problem because Streetman is from an unrelated art.

April 12th, 2007
Date


Signed by James Belaskie